REMARKS

Claims 1-27 are currently pending in the application. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Allowed Claims

Applicants appreciate the indication that claim 20 contains allowable subject matter. However, Applicants submit that all of the claims are in condition for allowance for the following reasons.

35 U.S.C. § 102 Rejection

Claims 1-3, 5-7, 9, 12-19, 21, 22 and 24-27 were rejected under 35 U.S.C. § 102(e) for being anticipated by U. S. Patent No. 6,824,931 issued to Liu (hereinafter, "LIU"). This rejection is respectfully traversed.

To reject a claim under 35 U.S.C. §102, a single prior art reference must contain each and every limitation of the claim, either expressly or under the doctrine of inherency. Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1570 (Fed. Cir.), cert. denied, 488 U.S. 892 (1988). The Examiner asserts that LIU shows all the elements of independent claims 1, 15, 21, and 27. Applicants respectfully disagree.

Claim 1 recites, in relevant part:

generating kerf data corresponding to the chip data; and
manipulating the kerf data by use of kerf processing using a same manipulation process as for the chip data.

Claim 15 recites, in relevant part:

> creating and manipulating kerf design data concurrently with chip data design manipulation processing by using same parameters in the kerf design data manipulation and chip data design manipulation thereby ensuring that the kerf design data and the chip design data are consistent.

Claim 21 recites, in relevant part:

> a component to generate kerf data corresponding to the chip data; and
> a component to manipulate the kerf data via kerf processing using the same manipulation process as the chip data.

Claim 27 recites, in relevant part:

> a second computer program code to generate kerf data corresponding to the chip data; and
> a third computer program code to manipulate the kerf data via kerf processing using the same manipulation process as the chip data.

Applicants acknowledge that kerf data, a term used in the application, may also be known as scribe line data, a term used in LIU. Nonetheless, Applicants submit that LIU does not show all of the features of the claimed invention. Specifically, LIU does not disclose a method of generating kerf data, LIU does not disclose manipulation of the kerf data by the same process as that used to manipulate the chip data, and LIU does not disclose that the kerf data is manipulated concurrently with the chip data.

First, regarding independent claims 1, 15, 21, and 27, the Examiner asserts that LIU shows a method for generating scribe line data. (LIU, col. 4, lines 31-37.) Applicants respectfully disagree. LIU provides a method for monitoring and verifying the quality of a photomask through use of scribe lines. (LIU, col. 4, lines 39-44.) Specifically, LIU teaches that a photomask may include device areas separated by scribe lines, wherein the scribe lines comprise verification patterns. (LIU, col. 4, lines 31-37.) That is, the scribe lines comprise patterns that can be used to verify whether

the photomask used to produce the device areas is adequate. (LIU, col. 4, lines 48-51.) That is, although LIU teaches a method for using scribe line data, in fact, LIU is silent as to any method for generating scribe line data. Accordingly, LIU does not show all of the features of the claimed invention.

Second, regarding independent claims 1, 15, 21, and 27, the Examiner asserts that LIU shows a method including generating kerf data corresponding to the chip data. (LIU, col. 6, lines 10-25.) Even assuming *arguendo* that LIU discloses a method of generating kerf data, which Applicants do not concede, LIU does not disclose, at col. 6, lines 10-25, that the generated kerf data corresponds to the chip data. Rather, LIU teaches that "[t]he verification patterns are desirably standardized ... which allows for faster checking of the masks ...." (LIU, col. 4, lines 55-58.) Thus, LIU suggests that the scribe line data (included in the verification patterns) should be standardized, and should not correspond to the chip data. Accordingly, LIU does not show all of the features of the claimed invention.

Third, regarding independent claims 1, 15, 21, and 27, the Examiner asserts that LIU shows a method including manipulating the kerf data by use of kerf processing using a same manipulation process as for the chip data. (LIU, col. 6, lines 10-25.) Even assuming *arguendo* that LIU discloses a method of generating kerf data corresponding to the chip data, which Applicants do not concede, LIU does not disclose, at col. 6, lines 10-25, a method for manipulating kerf data using the same manipulation process as that used for the chip data. LIU does specify that, in the scribe lines, various verification patterns may be used, including for example, SRAM and DRAM cells. (LIU, col. 6, lines 20-21.) LIU discloses that by using a standardized SRAM or DRAM cell, a technician inspecting the quality of the photomask would need only examine the verification patterns including the standard cell(s), and not the entire device area, thus saving time. (LIU, col. 4, lines 52-62.)

The Examiner asserts that such SRAM and DRAM cells require the same manipulation processing as the chip data. Applicants respectfully disagree. In the method disclosed in LIU, a standard SRAM or DRAM cell may, for example, be included in a verification pattern in the scribe line data, but LIU is silent as to how the scribe line data is processed. Thus, LIU does not teach, at col. 6, lines 10-25, that the kerf data and chip data are manipulated using the same manipulation process. In fact, if there is to be an interpretation, the suggestion in LIU of using a standardized SRAM or DRAM cell teaches away from manipulating kerf data using the same manipulation process as that used for the chip data. Accordingly, LIU does not show all of the features of the claimed invention.

In addition to the above arguments, Applicants respectfully submit that LIU does not show creating and manipulating kerf design data concurrently with chip data design manipulation processing, as recited in claim 15. Rather, as discussed above, LIU teaches that "[t]he verification patterns are desirably standardized ... which allows for faster checking of the masks ...." (LIU, col. 4, lines 55-58.) Thus, LIU suggests that the scribe line data (included in the verification patterns) should not be created or manipulated concurrently with the chip data. Accordingly, LIU does not show all of the features of the claimed invention.

Additionally, regarding claim 27, in addition to the above discussion, LIU does not disclose a computer program product, and thus the rejection is defective on its face.

Claims 2-14, 16-20, and 22-26 are dependent claims, depending from respective distinguishable base claims. Accordingly, these claims should also be in condition for allowance by virtue of their dependencies. Accordingly, Applicants respectfully request that the rejection over claims 1-3, 5-7, 9, 12-19, 20-22 and 24-27 be withdrawn.

35 U.S.C. § 103 Rejection

Claims 4, 10, 11, and 23 were rejected under 35 U.S.C. § 103(a) for being unpatentable over LIU in view of Chiang et al. "From CIF to Chips," 1989 IEEE Eighth Biennial Univeristy/Government/Industry Symposium Proceedings (hereinafter, "CHIANG"). Additionally, claim 8 was rejected under 35 U.S.C. § 103(a) for being unpatentable over LIU in view of U.S. patent No. 6,330,708 issued to Parker et al. (hereinafter, "PARKER"). These rejections are respectfully traversed.

Claims 4, 10, 11, and 23 are dependent claims, depending from distinguishable base claims. Accordingly, these claims should also be in condition for allowance by virtue of their dependencies. Additionally, it is submitted that CHIANG also does not compensate for the deficiencies in LIU, and accordingly does not show the features of at least claims 1, 15, and 21.
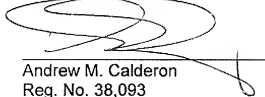
Claim 8 is a dependent claim, depending from a distinguishable base claim. Accordingly, this claim should also be in condition for allowance by virtue of its dependency. Additionally, it is submitted that PARKER also does not compensate for the deficiencies in LIU, and accordingly does not show the features of at least claim 1.

Accordingly, Applicants respectfully request that the rejection over claims 4, 8, 10, 11, and 23 be withdrawn.

CONCLUSION

In view of the foregoing remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 09-0456.

Respectfully submitted,
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